

REMARKS

Claims 1 - 14 are pending in this application, of which claims 4-11 have been withdrawn from consideration. By this Amendment, claim 1 has been amended and new claims 12 - 15 have been added. It is believed that this Amendment is fully responsive to the Office Action dated **April 10, 2002**.

As to the Merits:

As to the merits of this case, the Examiner sets forth the following rejections:

1. Claims 1 and 3 stand rejected under 35 UCC §102(b) as being anticipated by Hong (U.S. Patent No. 5,482,879); and

2. Claim 2 stands ds rejected under 35 UCC § 103(a) is being unpatentable over Hong in view of Shigyo (U.S. Patent No. 6,222,224).

These rejections are respectfully traversed.

Hong's gate insulator (510) has a thickness of 60 -100 angstroms (6-10 nm) (column 3, lines 55-58). As described in lines 6 - 8 on page 18 of the present specification, carriers cannot transmit through the gate insulator by the tunneling phenomenon when the thickness of the gate insulator is

about 5 - 10 nm. Strictly speaking, the carriers cannot transmit by the direct tunneling phenomenon. Accordingly, Hong's device does not utilize the direct tunneling phenomenon, but instead utilizes the FN tunneling phenomenon. In other words, Hong does not disclose the thin insulating film enough for carriers to transmit therethrough by the direct tunneling phenomenon.

Thus, for at least these reasons, it is respectfully asserted that the prior art fails to teach or suggest recitations of claims 1 - 3 and 12 - 14, and request that the Examiner allow these claims, along with the entire application, to issue. Accordingly, withdrawal of the rejection of claims 1 - 36 under 35 U.S.C. §102 and §103 is respectfully solicited.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes made to the by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully Submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Version with markings to show changes made

H:\FLOATERS\TEB\teb\00\001497\Amendment

IN THE CLAIMS:



Claim 1 has been amended to read as follows:

1. (Amended) A semiconductor memory comprising:
 - a semiconductor substrate;
 - a tunneling insulating film formed on a partial surface area of said semiconductor substrate, said tunneling insulating film having a thickness enough to transmit carriers therethrough by a direct tunneling phenomenon;
 - a floating gate electrode formed on said tunneling insulating film;
 - a gate insulating film covering a side wall of said floating gate electrode and a partial surface area of said semiconductor substrate on both sides of said floating gate electrode, said gate insulating film having a thickness not allowing carriers to transmit therethrough by the tunneling phenomenon;
 - a first control gate electrode disposed on said gate insulating film over the side wall of said floating gate electrode and over a partial surface area of said semiconductor substrate on both sides of said floating gate electrode; and
 - a pair of impurity doped regions formed in a surface layer of said semiconductor substrate on both sides of a gate structure including said floating gate electrode and said first control gate electrode.

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